FINDING OF NO SIGNIFICANT IMPACT
CONCURRENCE PAGE

Launch Rate Increase for DELTA II Program
at Vandenberg Air Force Base CA

September 1996

I concur with the Finding of No Significant Impact (FONSI):

Environmental Protection Committee Approval:

C. ROBERT KEHLER, Colonel, USAF
Chairman, Environmental Protection Committee
Vandenberg AFB, CA

9 Sep 96
Date

Judge Advocate Approval:

JOHN W. GUNDERSON, GS-14
Staff Judge Advocate
Vandenberg AFB, CA

5 SEPT 96
Date

Organization Approval:

LOUIS D. VAN MULLEM, JR., Colonel, USAF
Chief, Environmental Managment
Vandenberg AFB, CA

5 Sep 96
Date

Squadron Approval:

SAMUEL E. GARCIA, Colonel, USAF
Commander, 30th Civil Engineer Squadron
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5 Sep 96
Date

FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT FOR LAUNCH RATE INCREASE FOR DELTA II PROGRAM AT VANDENBERG AIR FORCE BASE (VAFB), CALIFORNIA

BACKGROUND:

Pursuant to the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality (CEQ) regulations (40 CFR part 1500 et seq.) implementing the Act, Air Force Instruction 32-7061, Environmental Impact Analysis Process, which implements compliance with NEPA, and other applicable federal and local regulations, the United States Air Force (USAF) has conducted an environmental assessment (EA) of the potential environmental consequences of the launch rate increase at Space Launch Complex-2 West (SLC-2W) Vandenberg Air Force Base (VAFB), California.

PROPOSED ACTION:

McDonnell Douglas Aerospace (MDA) proposes to increase its existing launch rate of Delta II launch vehicles through increased Department of Defense (DoD), National Aeronautics and Space Administration (NASA), and commercial payloads from SLC-2W from the current permitted level of two launches per year to a maximum of 10 launches per year. SLC-2W is presently operational for the Delta II launch vehicle. Ancillary features of the proposed action are the construction of an access road to address safety issues, and the construction of a new parking lot and the replacement of several trailers with building additions to address space availability issues.

The purpose of the proposed increased Delta II operations from SLC-2W is to fulfill the following needs:

1) Maintenance of existing capability to support timely and reliable launch of critical DoD, NASA, and commercial satellites from a location from which highly inclined and polar orbits can be achieved;

2) Provision of launch capability for DoD, NASA, and commercial payloads in the 7,500-pound class to highly inclined orbits; and

3) Maintenance of assured commercial access to space by providing additional launch capability for the Delta II space launch vehicle for all customers.

Implementation of the proposed action will substantially increase the nation's access to space by providing additional West Coast launch capability of up to 10 commercial, scientific, and government launch vehicles annually without launching over populated land areas. This capability will complement the East Coast (Cape Canaveral Air Station [CCAS]) commercial, DoD, and NASA Delta II launch capability for equatorial orbits. This action to launch additional payloads on an annual basis is the most reasonably cost-effective use of existing facilities and also advances the President's program for assured access to space for commercial users.

ALTERNATIVES

Alternative actions to increasing the number of Delta II launches from SLC-2W include:

1. Launch from an alternative existing Delta site,
2. Launch from a new site or existing non-Delta site,
3. Different number of launches, and
4. No action.

All alternatives were examined and rejected because each would fail to meet Delta II mission schedule requirements by several years and at higher initial costs. Specifically, for alternative #1, SLC-2W is the only existing facility configured to launch Delta II rockets into polar orbits. SLC-17 at Cape Canaveral is the only other facility configured for Delta II rockets. However, polar orbits cannot be achieved from this facility. Alternative #2 was eliminated, because no facilities exist or could be constructed in time for achieving the existing contracted schedule for payload launches. Alternative #3 was eliminated because the project planning was based on having the capacity to achieve the proposed schedule. Fewer launches would prevent achieving that schedule. Finally, the No Action Alternative would eliminate the project as conceived. Thus, based on these considerations, all alternatives were judged to be inviable and, aside from the No Action Alternative, were not considered further in the EA.

REQUIRED PERMITTING

The proposed launch increase required that MDA obtain a Coastal Consistency Certification from the California Coastal Commission (CCC) for commercial Delta II launches. Certification was granted on June 12, 1996.

Based upon the findings of the EA, the Air Force has requested formal consultation with the USFWS and requested that the USFWS prepare a new biological opinion (BO) or modify the existing BO.

On September 19, 1995, NMFS issued an Incidental Harassment Authorization, which was based on the assessment of noise impacts discussed by NMFS published in the Federal Register (August 18, 1995). The NMFS concluded that launches of Delta II rockets proposed for this project will not significantly impact harbor seals at the two haul-out locations near SLC-2W. A request for the continuation of the Incidental Harassment Authorization for the period between November 1996 and October 1997 has been submitted to the NMFS. The final letter of authorization is expected to be received in early fall. The proposed action of additional launches will not be instituted until the Letter of Authorization has been issued.

A conformity analysis was prepared resulting in a determination that the overall impact to air quality from the project would not exceed ambient air quality standards. The analysis also determined that the proposed action would not exceed the *de minimis* emissions thresholds for ozone precursors volatile organic compounds (VOCs) and oxides of nitrogen (NO_x). Additionally, the project is not considered to be regionally significant. Therefore, the proposed project is exempt from further conformity analysis pursuant to 40 CFR 93.153(c) and is in conformity with Section 176(c) of the 1990 Clean Air Act Amendments.

VAFB has submitted a request to the State Historic Preservation Officer (SHPO) for concurrence that selected elements of SLC-2W are not considered contributing elements toward SLC-2W's eligibility to the National Register of Historic Places (NRHP). Facilities proposed for modification in this project are among those for which VAFB is seeking redesignation. Formal redesignation by SHPO is expected in early fall.
MDA will comply with all mitigation requirements of the EA/Finding of No Significant Impact (FONSI) and applicable regulatory agencies.

ENVIRONMENTAL IMPACTS

The EA evaluated the environmental effects of the proposed action upon the following resources: air quality, water resources, ambient noise levels, biological resources, hazardous substances/waste management, socioeconomics, land use, energy resources, cultural resources, health and safety, and soils and geology. A summary of findings is presented below.

Air Quality: Emissions of air pollutants may result from construction pre-launch, launch, and postlaunch activities. Construction during the project is expected to result in the emission of 0.78 ton of oxides of nitrogen (NO_x), 0.49 ton of volatile organic compounds (VOCs), 9.86 tons of carbon monoxide (CO), 0.06 ton of particulate material less than or equal to 10 micrometers (PM_{10}), and 0.06 ton of oxides of sulphur (SO_x). Because the construction emissions of these substances are less than 25 tons (Santa Barbara County Air Pollution Control District Rule 202(C)(3) emission threshold), the construction impacts are not significant.

Exhaust emissions associated with the launching of the Delta II include aluminum oxide (Al_2O_3), hydrochloric acid (HCl), CO, and carbon dioxide (CO_2). Exposure of the general population to potentially harmful concentrations of HCl and CO will not occur. Similarly, exposure of the general population to levels of CO that exceed National Ambient Air Quality Standards (NAAQS) standards is not expected due to the short duration of air quality impacts, infrequent nature of launches, and distance of launches from the general public. Deposition of HCl mist is limited to the area under the rocket itself, HCl mist does not disperse widely, and therefore HCl will not present a significant impact to the surrounding biota.

Water Resources: Due to the small incremental increase in water use and short duration of the construction, the proposed project will not adversely affect the quantity or quality of water to VAFB or the surrounding community.

The proposed project will result in an annual increase in demand of 2.9 million liters, which represents less than 0.9 percent of total daily use of water at VAFB. Thus, the annual increase in water demand will not significantly impact VAFB's water supply.

Sanitary wastewater facilities have been constructed to handle the waste load consistent with the increased activity. Under normal conditions, the VAFB water treatment plant at SLC-6 has ample capacity for handling the roughly 130,000 liters of industrial water that would require disposal from SLC-2W approximately every 1 to 2 months. If a substantial rain event occurs prior to the routine time frame for disposal of ignition pulse suppression (IPS) water, water testing will be expedited and water disposed of before large amounts of rain accumulate. If the SLC-6 industrial water disposal facilities are sufficiently full so as to cause an overfill or a high probability of an overfill with the addition of IPS water to that facility, the IPS water will be retained in the SLC-2W retention basin until it can be properly disposed of. In the unlikely

event that such disposal does not occur during the wet season and a launch is imminent, alternative disposal options will be arranged through 30 CES/CEVCC.

Due to buffering and diluting capabilities of the ocean water, accidental releases offsite from a catastrophic destruction of a rocket is not expected to cause significant or long-term effects.

Ambient Noise: Based on the low frequency of launches, the distance to residential receptors, and the familiarity of local residents with low-level rocket launch noises, the increased noise resulting from the proposed action will not cause significant adverse impacts to humans.

Biological Resources: Approximately 2-1/2 acres of native undisturbed and disturbed habitat will be lost. Mitigation measures will be implemented to minimize native habitat loss, reduce erosion potential, and facilitate the reestablishment of native vegetation. Dune mint, a special-status plant species, is located near the proposed new road right-of-way; however, the road will be situated to avoid these populations. To ensure that no dune mint plants are affected, a qualified botanist will conduct a preconstruction survey. If dune mint plants are identified during this survey, the final road alignment will be adjusted to avoid an impact. The loss of 0.1 acre of potential dune mint habitat will be compensated through the enhancement 0.2 acre of adjacent disturbed potential dune mint habitat.

Road construction disturbance will be transitory and insignificant. To minimize potential disturbances, the footprint of the temporary use areas for construction of the parking lot and road will be kept to a minimum. Topsoil removed from the site will be stockpiled and returned to the unpaved area following construction. Further, to avoid impacts from erosion, the parking lot and road will be contoured to minimize focused runoff. During final design for the parking lot, erosion will be further minimized by installing erosion control devices, if required. Examples of such facilities may include gravel-lined, blind sumps at low spots in the lot or the incorporation of multiple drainage points in the lot contours.

Based on the absence of significant acid deposition during recent launches, no impacts to wildlife are expected from the HCl in the exhaust cloud. Additionally, given the distance to the least tern and snowy plover colonies situated near SLC-2W, there would not be any impact from HCl on the eggs of least terns and snowy plovers.

Because a rocket gains altitude and accelerates quickly after a launch, noise stimuli are necessarily of short duration. Aside from an initial startle reaction, no significant impacts to adjacent wildlife is expected from launch noise.

Given the distance to aquatic resources of roughly 3,000 meters for marine water and 1-1/2 kilometers for fresh water, the attenuation due to the water, and the short duration of the noise, no effects to aquatic animals, such as fish, amphibians, and reptiles is anticipated. Similarly, there is expected to be no impact on fully aquatic marine mammals such as whales and dolphins.

Legally protected animals, including harbor seals and sea otters, hauled out near SLC-2W and least tern and snowy plover nesting areas near SLC-2W will be exposed to excess noise for the short duration of the launch event. Based on their apparent long-term presence at the site, it is expected that the increased number of launches will not significantly impact these species, although a transitory startle effect will occur.

Insufficient data exist to determine the degree that startling could affect Least terns and snowy plovers nesting near SLC-2W. However, least terns and snowy plovers continue to be present at the site after four decades of launch activity, the first two decades of which were at a rate considerably higher than that proposed in the EA. Based on this information, it is expected that the increased launch rates will not have a negative impact to the long-term health of these species at VAFB. To gather additional data to better protect these birds, a program of monitoring will be conducted and consultation with USFWS will be ongoing.

Hazardous Substances: Because construction of the road and parking lot is not in areas of known surface contamination, no impacts due to removal of contaminated surface soils are expected to result from this phase of the project. Additionally, as road construction is not expected to disturb soils deeper than 1.2 meters, particularly in low areas, it is not anticipated that trichloroethylene (TCE)-contaminated groundwater or soils will be disturbed.

Renovation or construction of the buildings may occur in areas near the launch pad that have been tentatively identified as containing elevated levels of metals. There is an ongoing discussion as to whether the measured metals concentrations in these areas are significantly above background or are statistically equal to background. Pending resolution of this question, if contaminated soils are disturbed during the building construction, they will be disposed of in accordance with the contingency/response plan discussed below. As with the roadway, these areas also overlie groundwater containing TCE. The same contingencies that will be taken during road construction to avoid disturbance of TCE contaminated soils or groundwater will be used during building construction.

To ensure that TCE impacted soil and groundwater will be avoided, soils will be monitored to detect TCE prior to excavation. In the event that TCE-contaminated soils are encountered, they will be managed in accordance with applicable regulations. Similarly, if contaminated groundwater is encountered during road construction, excavation will be halted and road construction will be modified to avoid exposure to groundwater.

Based on MDA's conformance with the VAFB Hazardous Waste Management Plan and based on the ability of the base to deal with the slight increase in hazardous materials resulting from this project, the impact from the project to hazardous materials use and hazardous waste generation at VAFB is expected to be insignificant.

A contingency/response plan for management of potential releases of hazardous substances (e.g. TCE, metals, etc), due to local presence of soil and groundwater contamination, will be accomplished through the collaborative effort of 30 CES/CEVCR and proponent, prior to commencement of work involving the disturbance of soils.

Asbestos and Lead-based Paint: Due to the age of the buildings at SLC-2W, the potential exists that asbestos-containing material (ACM) and/or lead-based paint may be present and could be disturbed during the building modifications. Abatement of ACM and/or lead-based paint or asbestos will be conducted by qualified personnel following all applicable regulations. If required, an asbestos Demolition/Renovation Notification will be completed by the contractor for the project. Notification to the Santa Barbara County Air Pollution Control District (APCD) will be accomplished no later than 10 days prior to demolition/renovation work. In addition, an Asbestos Abatement Plan will be submitted by the contractor and approved by the Office of Environmental Management at VAFB (30 CES/CEVC) prior to demolition/renovation work, and before the Demolition/Renovation Notification to APCD. Disposal of friable asbestos material

will be coordinated through 30 CES/CEVCC by obtaining hazardous waste manifests. All friable ACM will be disposed of at a certified landfill that is permitted to accept this waste. Non-friable ACM will be disposed at the VAFB landfill as Class III solid waste.

Lead-based paint abatement will be accomplished in accordance with established procedures for removal, handling, and appropriate disposal of this waste material.

Material that is contaminated with lead-based paint that meets or exceeds hazardous threshold standards will be disposed as hazardous waste. Material not exceeding the established threshold for lead-based paint will be disposed at the VAFB landfill as construction debris. This category includes bulk waste material that supports intact coatings of lead-based paint.

Socioeconomics: No significant impacts to the existing population and local employment are expected as a result of the proposed action. For the short duration of the construction, there will be an economic benefit from the project through increased employment locally and the generation of revenue at local establishments.

Land Use: Changes in land use will result from the construction of the roads and parking lot since roughly 2-1/2 acres of dune habitat will be lost. Because much of the land has already been disturbed and the acreage lost is small compared to the surrounding dune habitat, the environmental impacts are insignificant. The increased launch activity will result in a slight increase in the number of beach closures at the nearby public beach, although the proposed action will not cause an exceedance of the historic number of launches during weekends. To minimize potential impacts, MDA will avoid daylight launches during weekends whenever possible. Beach closures will be conspicuously posted well before launch dates to minimize the potential impact to recreational use of the beach.

Energy Resources: A small additional demand for energy resources will result from this project. However, the extra demand is well within the normal power delivery system for VAFB and local area grids. As a consequence of this capacity, it is assumed that no significant impact will occur as a result of the proposed project.

Cultural Resources: Due to the presence of an isolated artifact identified during the Phase I surface survey at the north end of the new road area, monitoring by qualified archaeologists and Native Americans will be required during all ground disturbing activities associated with the action. SLC-2W has been determined eligible to the NRHP as a historic property associated with operational missions of exceptionally important Cold War programs. Building 1618 was originally considered a contributing element to the eligibility of the site, but has been dropped as a contributing element in the more recent U.S. Army Construction Engineering Research Laboratory (CERL) eligibility evaluation. Consultation with SHPO has been initiated and the Air Force is requesting concurrence with the CERL reevaluation of the contributing and noncontributing elements of SLC-2W and a No Effect Determination from SHPO for the building modification. With this concurrence and the archeological monitoring, no impacts to cultural resources will result from this project.

Other Issue Areas: Aesthetics, soils and geology, and health and safety were examined in the EA. Impacts were judged to be insignificant.

FINDINGS AND CONCLUSIONS

Following review of the EA for the proposed action, Launch Rate Increase for the Delta II Program at Vandenberg AFB, securing of appropriate permits, and incorporation of the specific mitigation measures identified above, the proposed action would not result in significant impacts to the environment. Based on information in the EA, this Finding of No Significant Impact (FONSI) is issued. Preparation of an Environmental Impact Statement (EIS) is not required for the proposed action. This FONSI and the supporting EA fulfill the requirements of NEPA, the CEQ implementing regulations, and AFR 32-7061. The EA and supporting determinations are on file at:

Vandenberg Air Force Base
30th CES/CEVPP
806 13th Street, Suite J
Vandenberg AFB, California 93437-5242
Attn: Environmental Coordinator

The EA and FONSI are available for public review at the Santa Barbara, Santa Maria, and Lompoc public libraries, and at the University of California at Santa Barbara library. Copies of the EA and FONSI may be obtained from the 30th Civil Engineering Squadron, Office of Environmental Management, Attn: Mr. Garry E. Sanchez, 806 13th Street, Suite J, Vandenberg AFB, CA 93437-5320.